TRANSPORTATION SECTOR: ALTERNATIVE FUEL VEHICLES

♦ KENTUCKY

Alternative Fuel Vehicles

The Kentucky Clean Fuels Coalition (KCFC) was formed in 1993 when Jefferson County Commissioner Dr. Stephen Henry (now Lieutenant Governor of Kentucky) learned about natural gas powered vehicles and founded the organization as a politically neutral non-profit open to members of both the private and public sectors. The membership is made up of fleet operators, representatives of all levels of government, automakers, and retailers. Its main goals are to educate and inform others about the benefits of alternative fuels.

The program has been very well received by the public and by drivers of the new alternative fuel vehicles. One of KCFC's main accomplishments has been to work with the Department of Energy to receive Clean Cities Designation for the Louisville/Central Kentucky Clean Cities Partnership. The program continues to grow, with plans for 1) refueling stations on public land, 2) Kentucky's first private fleet of alternative fueled cars, and 3) Kentucky's first public electric vehicles (vehicles for City of Louisville Park staff, trams at the zoo, and vehicles at Churchill Downs racetrack).

Results:

Number of Vehicles	Greenhouse Gas Reductions
2,040	**410 MTCE*/yr**

The KCFC has worked with twenty-three public fleets to help them meet national mandates for alternative fuel vehicle acquisition and operation. As a result, there are now approximately 500 compressed natural gas (CNG) vehicles, 840 ethanol/gas vehicles, and 700 propane vehicles operating in Kentucky. In addition, beginning with the 2000 model year, 90% of new cars purchased by fuel providers, 75% of new vehicles purchased by federal fleets, and 50% of new vehicles purchased by state fleets must be powered by alternative fuels. These vehicles can be refueled at any of the nine natural gas, fourteen propane, or one ethanol refueling sites in Kentucky (additional ethanol refueling sites are planned). Because there are numerous fleets with varying numbers of each type of vehicle (and no central database), it is difficult to determine the total CO_2 savings from all alternative fuel vehicles in Kentucky. However, if each car in Kentucky's clean fuel fleets traveled the average annual mileage for U.S. vehicles (11,400) at the average U.S. fuel efficiency (19.8 miles per gallon), GHG emissions reduced by this program would be about 410 MTCE*. The alternative fuel vehicles also help to reduce emissions of other pollutants.

Principal Actors:

The Kentucky Clean Fuels Coalition, made up of regulators, producers, manufacturers, retailers, and fleet operators, is headed by Melissa Howell. For a full list of the 23 public fleets in Kentucky that use alternative fuel vehicles see the web site listed below.

Additional Information:

Melissa Howell, Executive Director, Kentucky Clean Fuels Coalition, 502-452-9152, kcfc@aol.com, web site: http://www.nr.state.ky.us/nrepc/dnr/energy/doekcfc.html.

This case study is based on information provided by Melissa Howell, Kentucky Clean Fuels Coalition.

*The estimate is calculated using the following emission factors:

gasoline: 19.64 lbs. CO_2/gallon
E-85: 19.23 lbs. CO_2/gallon gasoline equivalent
Propane: 15.47 lbs. CO_2/gallon gasoline equivalent
CNG: 14.65 lbs. CO_2/gallon gasoline equivalent

These emission factors were derived from fuel carbon contents and fuel energy contents supplied by the U.S. Department of

Energy--Energy Information Administration, and the Nebraska Geographic Alliance. In addition, the figure used for average annual miles traveled in the United States per car was 11,400 miles per year and the figure used for average U.S. fuel efficiency was 19.8 miles per gallon. Both of these statistics were found in *Household Energy Consumption 1994*, available from the Energy Information Administration, www.eia.doe.gov/emeu/rtecs/toc.html. The emissions estimates were converted from pounds of CO_2 to Metric Tons of Carbon Equivalent (MTCE) (1 pound CO_2 is equivalent to 0.000124 MTCE).

Note: The emission factors above do not incorporate differences in the fuel efficiencies of different alternative vehicle types. The factors are based on the energy content of the fuel alone, not "in-use substitution ratios."